MEMORANDUM FOR: All NWS Regional Headquarters, Regional Maintenance Specialists, Electronic Systems Analysts, and Electronics Technicians [Engineering Handbook (EHB)-9 distribution]

FROM: W/OPS1 - Mark Paese (acting)

SUBJECT: Transmittal Memorandum for EHB-9 Issuance 02-05

1. Material Transmitted:

Engineering Handbook No. 9 (EHB-9), Automatic Radiotheodolite (ART - 1/2), Section 3.4, Modification Note 18, 10.7 Megahertz (MHz) Test Point R/ACU Test Panel Rewiring.

2. Summary:

Modification Note 18 provides instructions to replace the R/ACU test panel 10.7 MHz test point wiring with a new cable and adapters. The new cable provides a more accurate 10.7 MHz 1.8 volt oscilloscope display at the test point.

3. Effect on Other Instructions:

Engineering Handbook No.9 (EHB-9), Automatic Radiotheodolite (ART - 1/2), Section 3.4, Modification Note 12, R/ACU Test Point Panel.

ART MODIFICATION NOTE 18 (for Electronics Technicians)
Maintenance, Logistics and Acquisition Division
W/OPS12: FJZ

SUBJECT : 10.7 Megahertz (MHz) Test Point R/ACU Test Panel Rewiring

PURPOSE : Provide instructions to rewire 10.7 MHz test point on R/ACU Test Panel

EQUIPMENT AFFECTED : R/ACU drawer

PARTS REQUIRED : Cable assembly with adapters (ASN: J170-1A3A1W2). The modification kit will be mailed to each station without station action.

The modification kit includes the following:
? PE9302 Tee adaptor - SMB "T"
? PE9118 Adaptor - SMB to SMB plug
? Belden cable #83284 with attached PE4046 connector

NOTE: Unit Assembly consists of:
? PE9118 connected to PE9302
? Belden cable #83284 W/PE4046 attached to PE9302

MODIFICATION PROCUREMENT : None.

SITES AFFECTED : All ART-1 and ART-2 sites

ESTIMATED TIME REQUIRED : 2 work hours

EFFECT ON OTHER : INSTRUCTIONS None.

AUTHORIZATION : N/A

VERIFICATION STATEMENT : This modification was successfully tested at the Sterling Research and Development Center at Sterling, VA and Weather Forecast Office Springfield, Missouri.

TECHNICAL ASSISTANCE : For questions or problems pertaining to this modification note, please contact Franz J. G. Zichy at 301-713-1833 x128.

GENERAL:

The existing 10.7 MHz test point wire is not shielded and has shown to cause a false oscilloscope reading. The MIL-C-17 cable included in the modification kit, provides a true 1.8 volt oscilloscope representation.

PROCEDURE:

Although this modification can be performed without removing the drawer from the slide rails, this procedure is written with the drawer removed.

CAUTION

Ensure all power is removed before performing this modification.

1. At the front of the R/ACU drawer, turn the power switch to the OFF position.
2. Loosen the capture screws from the front of the drawer and slide the drawer out to gain access to the rear of the drawer.
3. Disconnect all the cables from the rear of the drawer.

CAUTION

Two people must perform the next step. Care must be taken when removing the drawer from the rails to prevent the drawer from falling and causing injury.

4. Depress the slide rail locks and remove the drawer from the rails. Using 2 people, carry the drawer to a workbench.
5. Locate the test panel and remove the two self-tapping screws.
6. Carefully pull the panel out, flip it over so the back of the test points are facing up, and replace the screws to hold the test panel in place.

7. Carefully unsolder the white lead from the “10.7 MHz” test point (figure 1).
8. Disconnect the other end of the white wire attached to XA2-1 (figure 2).
9. Remove the black (ground) wire from the “SIG GND” test point (figure 1).
10. Locate the Belden cable #83284 in the modification kit and carefully separate the ground shield from the center conductor (figure 3).
11. Take the black wire unsoldered in step 9 and twist it together with the ground shield of the Belden cable.
12. Solder both wires to “SIG GND” test point (figure 4).
13. Take the center conductor of the new Belden Cable #83284 and solder it to the 10.7 MHz test point (figure 4).
14. Remove the self-tap screws, flip the test panel over, and slide it back into slot A1.
15. Using the self-tap screws, secure the panel to the card cage.
16. Route the new Belden cable under the test panel and between PS2 to the A7 board.

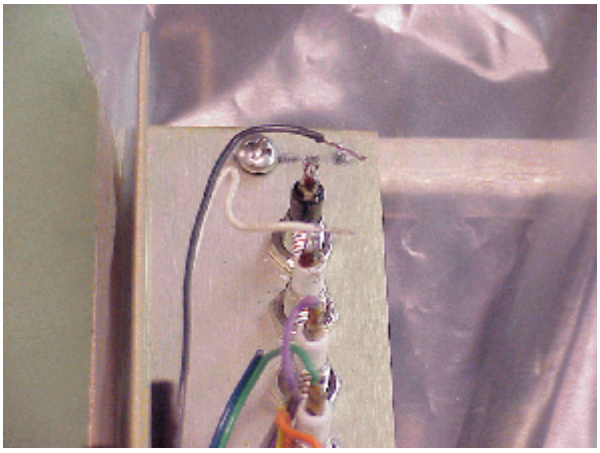

Figure 1

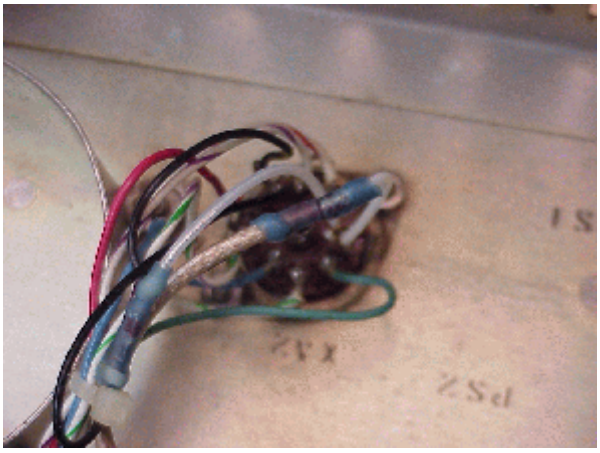

Figure 2

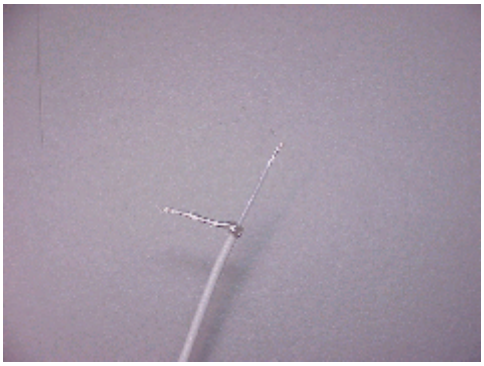

Figure 3

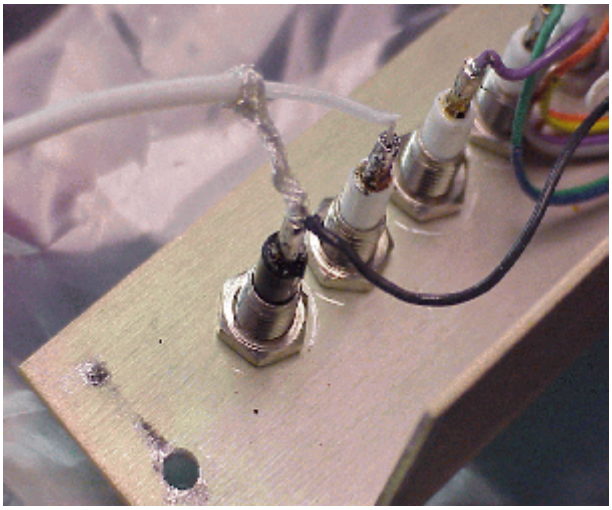

Figure 4

17. On the A7 board, disconnect the 10.7 MHz IF cable from J1 (figure 5).

18. Connect the PE9302 tee adapter to the PE9118 plug then to J1 on the A7 board (figure 6).

19. Connect the 10.7 MHz IF cable, removed in step 17, to the PE9302 tee adapter.

20. Connect the other end of the Belden cable W/PE4046 connector to the PE9302 tee adapter.

21. Using 2 people, lift the drawer up onto the R/ACU housing assembly slide rails and reconnect the cables to the back of the drawer.

22. Slide the drawer back into the housing assembly.

23. At the front of the drawer, turn the power switch to the ON position.

24. Use the necessary test equipment and verify that all signals labeled on the test panel are available.

This completes the rewiring of the 10.7 MHz test point on the R/ACU Test Point Panel.

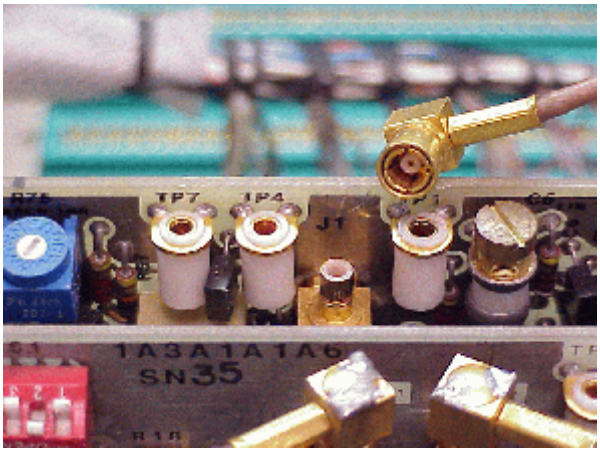

Figure 5

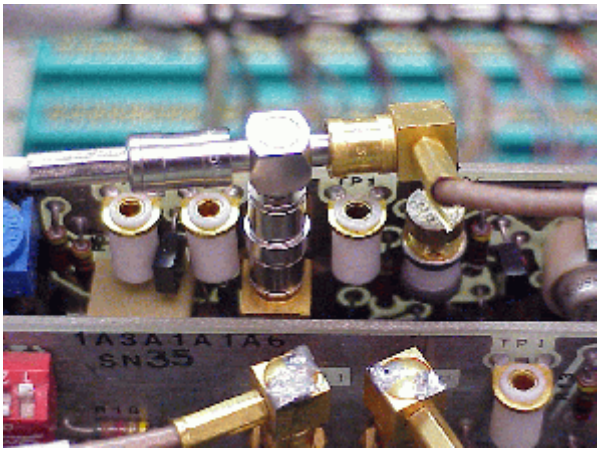

Figure 6

REPORTING MODIFICATION

Report the completed modification on a WS Form A-26 according to instructions in Engineering Handbook No. 4 (EHB-4), Engineering Management Reporting System, Part 2, and Appendix J. Include the following information on the WS Form A-26:

Block #	Block Type	Information
5	Description	Install Belden Cable assembly W/Adapters
7	Equipment Code	ART-1 or ART-2 (as appropriate)
15	Comments	The Belden cable included in the modification kit, provides a true 1.8 volt oscilloscope representation
17a	Mod. No.	18

A sample WS Form A-26 is provided as Attachment A.

Mark Paese (acting)
Chief, Maintenance, Logistics, and Acquisition Division

Attachment A - WS Form A-26 Sample

ATTACHMENT A
WS Form A-26 Sample

WS FORM A-26 (4/94)

WS FORM A-26 (4/94)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

ENGINEERING MANAGEMENT REPORTING SYSTEM
MAINTENANCE RECORD

Document Number: **G 49978**

General Information	1. Open Date	Time	2. Initials	3. Response Priority (check one)	4. Close Date	Time
	3 / 29 / 02	0900	JMM	○ Immediate ○ Low ○ Routine ☒ Not Applicable	3 / 29 / 02	1100

5. Description: **Rewire 10.7 MHz test point on R/ACU Test panel by installing Belden Cable Assembly with adapters**

Equipment Information	6. Station ID	7. Equipment Code	8. Serial Number	9. TM	10. AT	11. How Mal.
	FFC	ART2	012	M	M	999

12. EQUIPMENT OPERATIONAL STATUS TIMES	a. Fully Operational	b. Logistics Delay	Partly Operational c. All Other	d. Logistics Delay	Not Operational e. All Other
					2:00

13. Parts Failure Information

Block #	a. ASN	b. NSN	c. TM	d. AT	e. How Mal.	f. Qty.	g. Maint. Hrs.
1							
2							
3							
4							
5							

14. Work Load Information

Type	Staff Hrs.
a. Routine	
b. Non-routine	
c. Travel	
d. Misc.	2:00
e. Overtime	

Miscellaneous Information	15. Maintenance Comments	16. Initials
	Re-wired 10.7 MHz test point on R/ACU Test Panel I.A.W. Automatic Radiotheodolite Mod Note 18.	JMM

17. SPECIAL PURPOSE REPORTING	a. Mod. No.	b. Mod./Act./Deact.Date	c.	d.	e.
	18	3/29/02			

18. CONFIGURATION MGMT. REPORTING (use as directed)	ASN	Vendor Part Number (New Part)	Serial Number (Old Part)	Serial Number (New Part)